



Dongfeng Cummins Curve and Datasheet

Engine Model: ISZ425 40

Curve and Datasheet: FR20239



Dongfeng Cummins Engine Co.,Ltd

Engine Performance Curve FR20239

EURO 4

Engine Model: ISZ425 40

Advertised Power: 317 kW @ 2100 rpm

425 HP @ 2100 rpm

Engine Configuration: D0C3002BX03

CPL: 43354

Peak Torque: 1966 N.m @ 1200 rpm

Displacement: 13.0 L

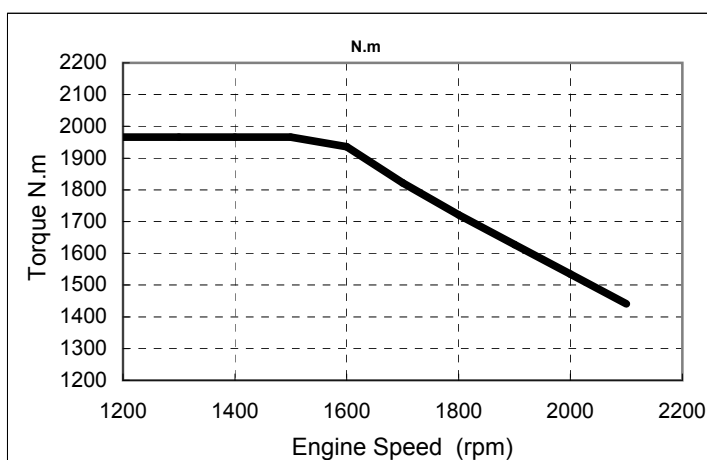
Cylinders: 6

Bore: 130 mm

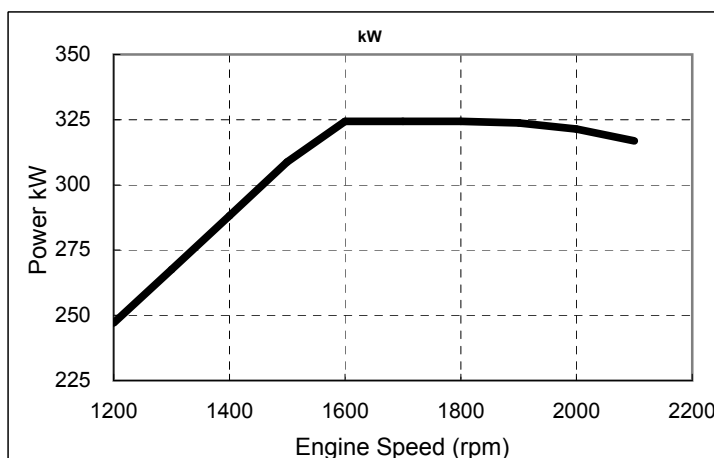
Stroke: 163 mm

Aspiration: Turbocharged & Charge Air Cooled

Fuel System: XPI



Torque	
rpm	N.m
1200	1966
1300	1966
1400	1966
1500	1966
1600	1936
1700	1822
1800	1721
1900	1627
2000	1535
2100	1441



Power	
rpm	kW
1200	247
1300	268
1400	288
1500	309
1600	324
1700	324
1800	324
1900	324
2000	321
2100	317

Curves shown above represent mature gross engine performance capabilities obtained and corrected in accordance with SAE J1349 conditions of 29.61 in Hg (100 kPa) barometric pressure [300 ft (90 m) altitude], 77 deg F (25 deg C) inlet air temperature, and 0.30 in Hg (1 kPa) water vapor pressure with No. 2 diesel fuel.



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General Engine Data

Certification.....	GB 17691—2005
Compression Ratio:	17:1
Approximate Engine Weight - Dry:.....	- kg 1195
Approximate Engine Weight - Wet:.....	- kg 1260
Center of Gravity	
from front face of block:.....	- mm 519
above crankshaft centerline:.....	- mm 201
Maximum static mounting surface bending moment	
Rear face of block:.....	- N•m 1356
Bolt pad for front support:.....	- N•m 678
Maximum crankshaft thrust bearing load limit	
Intermittent load:.....	- N 9786
Continuous load:.....	- N 4893

Air Intake System

Maximum temperature rise between ambient air and engine air inlet:	- °C 11.1
Maximum temperature rise between ambient air and intake manifold:	- °C 30
Maximum intake air restriction (heavy duty air cleaner):	
dirty filter:	- kPa 6.2
clean filter:	- kPa 2.5

Exhaust System

Max. back pressure imposed by complete exhaust system:	- kPa 21
Maximum allowable static bending moment at exhaust outlet flange:	- N•m 27
Exhaust pipe size normally acceptable:.....	- mm dia 125

Electrical System

System voltage:	- <u>V</u> <u>24</u>
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Performance Data

Idle Speed:	- rpm 600 - 800
Maximum no load governed speed:	- rpm 2300
Maximum over speed capability(15secs max.):	- rpm 2625
Maximum altitude for continuous operation:	- m 5200
Torque available at clutch engagement:	- N.m 1152

Cold Start Performance

Minimum ambient temperature for unaided cold start:	- °C -15
Minimum ambient temperature for aided cold start:	- °C -30



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Cooling System

Maximum allowable pressure drop across charge air cooler and OEM CAC piping: - kPa 10.1

Minimum cooling capability:

Engine out coolant to ambient @ 1,600 RPM: - °C 60.6

Engine out coolant to ambient @ 1,200 RPM: - °C 65.6

Charge air cooler to ambient @ 1,600 RPM: - °C 23.9

Engine Speed RPM	Oil Pressure kPa	Air to Turbo m³/min	Air From Turbo		Exhaust Flow m³/min	Exhaust Temp °C	Fuel Consumption	Coolant Flow l/min	Heat Rejection		Friction Power kW
			Flow kg/min	Pressure kPa					Coolant Kw	Air kW	
2100	276	31.9	36.7	189	63.6	397	68.9	510	141.0	71.0	58.0
1600	259	26.6	31.0	206	59.0	435	65.3	390	128.0	63.0	29.0
1200	248	15.5	19.0	145	42.7	504	48.5	294	109.0	30.0	25.0

All values within ±5%

Base engine data refer to D0C3002BX03

All data subject to change without notice. Dongfeng Cummins Engine Co., Ltd